GC Ex. 4.0

STATE OF ILLINOIS
ILLINOIS COMMERCE COMMISSION

Commonwealth Edison Company	**)**	
	)	
Petition for approval of delivery services tariffs	**)**	
and tariff revisions and residential delivery services	**)**	**No. 01-0423**
implementation plan and for approval	**)**	
of certain other amendments and additions	**)**	
to its rates, terms and conditions	**)**	

REBUTTAL TESTIMONY

SUBMITTED BY

EDWARD C. BODMER

ON BEHALF OF

PEOPLE OF THE STATE OF ILLINOIS
CITY OF CHICAGO
COOK COUNTY STATE'S ATTORNEY'S OFFICE
CITIZENS UTILITY BOARD

OCTOBER 16, 2001

REBUTTAL TESTIMONY OF EDWARD C. BODMER

I.
INTRODUCTION

Q. What is your name and on whose behalf are you testifying?

A. My name is Edward Bodmer. I am testifying on behalf of the City of Chicago, the People of the State of Illinois, the Cook County State's Attorney's Office, and the Citizens Utility Board.

Q. Have you submitted direct testimony in this proceeding?

A. Yes, I submitted direct testimony as GC Exhibit 1.0, which included my qualifications.

Q. What is the purpose of your rebuttal testimony?

A. I respond to various pieces of testimony submitted by Edison that dispute findings discussed in my direct testimony related either to cost of service issues or to my recommendation that the Commission initiate an investigation of Edison's distribution capital expenditures. My testimony responds specifically to the testimony presented by Edison witnesses Ms. Arlene Juracek, Mr. Jerome Hill, Mr. Michael Born, Mr. David DeCampli, Dr. James Williams, Mr. Alan Heintz, and the panel testimony of Mr. Lawrence Alongi and Ms. Sharon Kelly.

II.
REVIEW OF DIRECT TESTIMONY AND EDISON RESPONSES

Q. Please review your direct testimony with respect to your recommendation that the Commission perform an audit before allowing Edison's large proposed rate base increases related to distribution capital expenditures.

A. In my direct testimony, I explained that because of a combination of factors -- including temporarily frozen bundled rates, the way in which the CTC works, and the nature of rate base additions -- the impacts of the Commission's decisions on rate base additions are far more significant than they may initially appear, and that the rate base increases are more important to customers than increases in operating and maintenance expenses. Further, I suggested that distribution- related additions Edison proposes to include in rate base should not be approved until the Commission has completed a full investigation of its capital expenditures to identify and to exclude any amounts attributable to imprudent neglect of Edison's distribution infrastructure. Finally, I concluded that during the pendency of the audit, it would be unnecessary for Edison to increase its rate base further by recording carrying charges on plant balances under investigation, in part because, after adjusting for merger accounting and amortization, Edison is already earning a return on equity above 20%.

Q. Please review the recommendations in your direct testimony respecting Edison's cost-of-service and rate design proposals.

A. I concluded that Edison's marginal cost of service study is so flawed, when measured against any reasonable application of economic principles, that it does not provide better efficiency fbenefits than does an embedded cost study. However, I also concluded that Edison's embedded study must be revised in the manner I prescribed to allocate costs more equitably among customer classes. The more significant of the embedded cost study revisions I recommended included: (1) allocation of certain distribution costs using a coincident peak allocator rather than a non-coincident peak allocator; and (2) allocation of billing costs, customer installation costs, and metering costs on a basis that reflects Edison's actual business activity.

Q. In general, how did Edison respond to your recommendations?

A. As in any contested case, Edison understandably challenges the testimony of parties who are critical of its positions. However, in two situations, Edison has taken particularly defensive positions that corporate policies developed in its bureaucracy must be accepted without scrutiny of the fundamental basis of those policies. The two instances to which I refer relate to costs of remedying distribution neglect and to its marginal cost study.

The first issue concerns Edison's position that even if earlier management actions were imprudent, and even though extraordinary expenditures have been made by the Company to remedy the resulting reliability problems, its distribution capital investment is no higher than

it would have been had the Company been prudent all along. While that is theoretically possible, though unlikely, objective evidence to support that claim has not been presented. More important, according to Edison's rebuttal testimony, the Commission (and all parties) should accept the opinions of Edison's witnesses that no costs attributable to past imprudence are included in its request. Yet, at the same time the Company maintains that it has performed no analyses to identify the incremental amounts (if any) that Edison paid to study problems, purchase equipment, configure systems, and install facilities as it undertook significant remedial expenditures and corrective action on an expedited basis.

The second issue is Edison's position that its marginal cost study is beyond question because, in the past, the Commission has not delved into every detail of the study in its orders. The Company would have the Commission ignore completely the evidence in this record that the study is built upon questionable survey data, incorrect theoretical premises, and incorrect assumptions. That would not be proper. Edison's reverence for past Commission decisions also ignores (and is entirely inconsistent with) Edison's disregard of the Commission's recent decision rejecting a marginal cost basis for delivery service rates. Such inconsistencies in costing practices lend additional credence to Staff witness Lazare's conclusion that Edison's marginal cost studies should not be selected over a more objective, verifiable embedded cost study.

Q. Could Edison have reasonably taken alternative positions on these issues?

A. Yes. With respect to the analysis of distribution costs, Edison could have cooperated in the

parties' attempts to ascertain whether any of its distribution expenditures, based on a review of objective evidence, are attributable to, *e.g.*, a need to correct the effects of past imprudent actions or to remedy such problems on an expedited basis. Evidence that answers this question is simply not present in this proceeding.

With respect to the marginal cost study, Edison could work with parties to develop innovative and appropriate pricing models for distribution infrastructure investments. An appropriate pricing policy for investment in infrastructure would, for example, recognize that artificially low prices for installations of new facilities -- whether for new customers or for existing customers -- provide incorrect signals to consumers with regard to use of the utility's underutilized infrastructure investment.

Q. How have you arranged your rebuttal testimony?

A. I begin by discussing Edison's response to my recommendation that an audit of capital expenditures be performed. Next, I comment on Edison's defense of its marginal cost study. Third, I discuss Edison's responses to changes that I proposed in its embedded cost study. I have not included any extended discussion of Edison's tariff provision on retail delivery services customers' responsibility for FERC transmission charges, since the Company does not rebut the fundamental point that these are interstate transmission charges that should be collected under the OATT, not by using Edison's Illinois DST tariffs.

III.

EDISON'S REBUTTAL TESTIMONY CONFIRMS THE NEED FOR FURTHER INVESTIGATION

Q. Please summarize Edison's rebuttal testimony with respect to your recommendation to investigate the magnitude of its capital expenditures related to its recovery program.

A. Edison has responded to the recommendation for an investigation into the amounts of distribution capital expenditures with a series of novel or unsupported arguments:

(1) That past imprudence is not relevant in assessing rate base additions and that the intevenors simply are using the investigation as a means to penalize the Company by delaying the new tariffs.

(2) That the distribution expenditures Edison made are no higher than they would have been without any past imprudent actions by the utility.

(3) That Edison has provided sufficient data to allow parties and the Commission to assess whether the proposed level of expenditures includes improper "catch up" expenditures.

(4) That Edison's distribution plant is used and useful even though obsolete plant remains in rate base.

Q. Before addressing the specific arguments Edison makes, can you comment generally on the reasonableness of Edison's position?

A. Edison asks the Commission to accept, on the basis of the subjective conclusions of its employee-witnesses, the utility's claim that despite acknowledged distribution system problems requiring massive corrective expenditures, none of the resulting expenditures were

higher because of past neglect, expedited construction, or repair of neglected system components. Edison does not provide data or analyses that (a) identify what recovery program costs are included in (or excluded from) its revenue requirement, or (b) demonstrate what distribution costs would have been without past system neglect or the more recent need to expedite repairs, make-up work, and installations. Edison merely presents witnesses who make qualitative statements about management practices at the Company or present subjective conclusions about the propriety of the amounts included. Quantitative bases for their opinions are not presented.

In other words, we are to accept a rather extreme position (that the millions of dollars spent on distribution upgrades would have been the same had the past acknowledged problems not occurred) without any objective analysis. Edison's position comes very close to arguing that allowed test year costs of service cannot be affected by prior management actions, even if they were imprudent. My position does not presume that Edison's expenditures to repair the system have been inappropriate or that the facilities installed were not needed. My position is simply that:

(1) the evidence in this case does not demonstrate that Edison's proposed revenue requirement, in fact, reflects only reasonable and prudent expenditures -- or even, as Edison phrases the test, no costs higher than they would have been absent Edison's acknowledged distribution maintenance and investment errors or other imprudent actions;

(2) the evidence in this case does not demonstrate that the proposed revenue

requirement excludes amounts attributable to documented, imprudent investment actions that resulted in reliability problems which required significant expenditures to correct, and

(3) approval of the requested additions to rate base cannot be justified without a far more thorough analysis.

1. Relevance of Past Utility Performance

Q. Explain why you interpret Edison's position to be that possible connections between past imprudence and the proposed distribution capital additions or the level of distribution expense need not be investigated.

A. The following sample of statements by various Edison rebuttal witnesses indicates to me that -- in Edison's view -- (a) the causes of the reliability problems that prompted its recovery program (and the related costs) are entirely irrelevant, and (b) the existence of procedures makes any review of actual costs unnecessary. That is not my understanding of pertinent ratemaking principles and past Commission practice. The statements I refer to include the following:

> While the construction schedule was certainly aggressive, my own analysis showed that there was no major project performed that a prudent utility company would not have undertaken. **Any past alleged failure or inattentiveness to the distribution system is really irrelevant to the status of these projects as an appropriate component of Distribution Plant.** They were all needed and no 'premium' that I can determine was paid to construct those projects as an appropriate component of Distribution Plant. ComEd Exhibit 26.0, line 166 (DeCampli) (emphasis added).

> The distribution capital investments required to achieve those reliability

improvements are properly included in rate base. ComEd Exhibit 19.0, line 44 (Helwig).

> ComEd has in place excellent procedures governing whether, when and how to make capital expenditures. It has developed good procedures for expense and cost control. It is audited annually by its outside accountants. It is required to file a FERC Form 1. ComEd Exhibit 26.0, line 321 (DeCampli).

Q. Does Edison deny that problems in its distribution infrastructure attributable to the utility's past management or operation of the system have given rise to the need for its large capital expenditures?

A. No. As other witnesses have recounted, Edison's own investigation of its distribution system's reliability problems identified the need for massive expenditures to correct the problems found and to prevent additional reliability failures. A more muted acknowledgment from the leader of Edison's investigation is included in the following testimony:

> ComEd had serious problems with its distribution system in 1999… these problems were in part caused by the condition of aspects of ComEd's distribution system. ComEd Exhibit 19.0, line 71. (Helwig).

Note, however, that in its rebuttal testimony Edison was careful to assert only prudence in its current response, not in past actions that contributed to the need for the response. That is, Edison asserts because its costs incurred to remedy the reliability failures were prudent, there is no need to look into what caused that need for corrective action and expenditures. However, Edison's position evades the real point. The question for the Commission is not whether fixing an obvious problem is prudent. It is whether any of the costs of fixing the problem should be disallowed because those costs were caused by prior imprudent actions.

For example, costs may be higher because of the need to remedy the resulting (and continuing) reliability failures and risks on an expedited basis.

Q. Do you agree with Edison's suggestion that you are trying to penalize the Company?

A. No, notwithstanding Edison's accusation that the recommended audit is merely a thinly veiled attempt to penalize the Company. ComEd Exhibit 20.0, line 66 (Juracek). Edison suggests further that:

> [T]here is no reason for such an audit, and the GCI proposal is a transparent effort essentially to get something for nothing, i.e., to allow delivery services customers to continue to have the benefit of ComEd's distribution capital investments from 1998 to date while avoiding paying their fair share – or any share – of those costs. ComEd Exhibit 24.0, line 516 (Voltz).

When there is documented evidence, prepared by the utility itself, that possibly imprudent actions of the utility have caused expenditures that may be included in a proposed revenue requirement, the impetus for a through investigation is not to penalize the utility for its actions, but to meet the Commission's regulatory obligations.

Q. In your view, how should the prudence of Edison's past management decisions be considered in determining appropriate additions to rate base?

A. Ms. Juracek suggests that looking at the prudence of Edison's past actions inappropriately penalizes the Company. ComEd Ex. 20.0, line 66. That logic, however, would preclude <u>any</u> regulatory consideration of managerial or operational prudence and the resulting costs. Any time a utility rate base is adjusted and the prudence of cost-causing management decisions is reviewed, the actions in question are by definition past decisions. Further, it is generally

assumed, whether a nuclear plant, natural gas pipeline or a distribution substation is being evaluated, that if there was a past problem, management has repaired the problem.

The fact that a distribution problem was identified and repaired does not mean that the prudence of past management actions that may have required the remedial expenditures are beyond question. In other words, even if actions made by current management to fix problems are exemplary, a rate base adjustment may still be appropriate where the proposed rate base or expense level is more than it would have been if past management actions had been prudent. My recommendation for an audit is not meant to punish Edison – the audit may demonstrate that no adjustment is appropriate. Instead, the audit will provide the evidence necessary for a reasoned Commission determination, based on objective evidence, of the proper magnitude of additions to rate base and allowed expenses. At this point there is simply no objective basis on which to make a determination of what costs (if any) should be disallowed as imprudent or unreasonable, especially in light of the critical findings of Edison's own investigation report.

2. *Objective Evidence of Recovery Program Cost Prudence and Reasonableness*

Q. How has Edison attempted to show that its expenditures in connection with fixing its distribution were no higher than they would have been irrespective of past imprudence?

A. Edison addresses this issue only through the opinions of its witnesses. The utility asserts, without any supporting objective quantitative analysis, that it has not incurred higher costs

than it would have incurred had expenditures been made when needed to avoid the reliability problems and at a measured pace all along. The following selection of statements from Edison's rebuttal testimony illustrates its reliance on unsupported opinion:

> ComEd's distribution capital investments, and its distribution capital project contract management practices, in this period have been prudent and do not include any increment of costs due to any past imprudence by ComEd. ComEd Exhibit 24.0, line 521 (Voltz, emphasis added).

> The distribution capital component of the proposed rate base in ComEd's proposed revenue requirement simply does not contain any incremental costs that would not have been incurred but for any past imprudence on the part of ComEd. ComEd Exhibit 24.0, line 38 (Voltz).

> Furthermore, none of those intervenor witnesses has shown that ComEd paid more than it should have for any particular distribution capital project performed in this period. ComEd Exhibit 24.0, line 36 (Hill).

As the last statement shows, Edison also maintains that it is the responsibility of other parties to prove that the expenditures have been excessive. In fact, Ms. Juracek suggests that without the kind of proof that only an audit could provide, an audit is not justified. ComEd Ex. 20.0, line 899.

Q. Does Edison's explanation of its policies respecting overtime, use of contractors, incentive payments, and supply costs provide objective proof that its costs were not higher because of the need to remedy problems attributed to past system neglect or the hurried nature of expenditures to prevent additional reliability failures?

A. No. Edison justifies its costs with a number of statements about its procedures and witnesses' opinions that the procedures worked, but there is no objective data or analysis that demonstrates how much Edison's expenditures would have been if the past problems with

Edison's distribution system had not occurred. It is still not clear what amount of the recovery program costs are actually included in its proposal. The general, non-quantitative opinions of Edison witnesses offered in place of quantitative data and evidence include the following:

> No significant incremental costs were incurred by ComEd for expedited transportation…Further, it is incorrect to assume that under normal conditions distribution equipment is never shipped on an expedited basis. ComEd Exhibit 24.0, line 179 (Voltz).

> The use of contract incentives, including time related incentives, is entirely appropriate and prudent. ComEd Exhibit 25.0, line 57 (Williams).

> …people from outside of the region are brought in as there may not be enough skilled people within the region to be able to complete the project in the desired time frame. ComEd Exhibit 25.0, line 170 (Williams).

> Overtime costs would not have been less if work had been done prior to 1999. Because employees were already working overtime in the years previous to 1999, they would have incurred additional overtime costs anyway if more work had been assigned to them. ComEd Exhibit 24.0, line 50 (Voltz).

In all of these statements we are asked to accept on faith, despite Edison's obvious economic incentive to avoid disallowances and without any objective quantitative analysis, that Edison has not spent more than it would have absent any utility actions of questionable prudence. Edison's attempts to justify costs that it does not quantify as part of its request strengthens the case for further investigation. In fact, its testimony appears to support the very inquiries the testimony is meant to dispel.

Q. Summarize your position with respect to the appropriate manner in which the

expenditures should be considered?

A. The evaluation should include: (1) assessment of the prudence of the management decisions that led to the costs; and, (2) comparison of the costs resulting from those decisions compared to hypothetical costs that would have occurred had the Company instead made prudent decisions over a number of years. In performing this evaluation, a number of different projects must be evaluated, detailed invoices must be reviewed, and engineering expertise must be used. As I explain below, information to make these determinations is not present in this proceeding.

3. *Sufficiency of Quantitative Evidence and Data Request Responses*

Q. Do you agree with Edison that it has provided all information necessary to assess its distribution capital expenditures in light of possible prior imprudence actions?

A. No. Edison suggests that any analysis of the level of expenditures could have been performed in this case and that an audit is unnecessary. Ms. Juracek even suggests that the "public process and scrutiny" that accompanied its reliability failure and recovery program is an adequate substitute and that "an audit would serve no useful purpose." ComEd Exhibit 20.0, line 866. I disagree. The record does not demonstrate that the concern of governmental bodies about reliable electric service led to a quantitative review of the expenditures proposed as costs in this proceeding. In any case, that process was not "public," and I understand that some of the information about the recovery program is still considered confidential.

Q. Has Edison supplied sufficient data to allow parties to identify and analyze incremental expenditures associated with the recovery program?

A. No. Edison argues in testimony that "Staff or intervenors should have the obligation to show in this case that Edison incurred any incremental distribution capital costs due to past imprudence." ComEd Exhibit 24.0, line 527. That process seems to reverse the traditional obligation of the utility to justify its proposal. But, in any case, the Company -- which has exclusive possession of the relevant information -- has not provided data in its testimony, exhibits or workpapers that are sufficient to allow any party to identify or to analyze its incremental distribution costs.

Q. Has Edison provided the quantitative data you describe in its discovery responses, so that other parties could perform the analysis you say the utility has not presented?

A. No, it has not. In fact, the certainty expressed by Edison's witnesses contrasts sharply with the lack of information Edison says is available to test their conclusions. Some examples of this lack of information include:

- In a data request 3.209, the City asked Edison to provide invoices for out-of-town labor. Edison did not provide a quantitative response because "there is no definition of out of town" and "no indication as to whether ComEd labor, third party labor or some other determination of labor is to be used."
- In data request 3.213, the City asked Edison to provide contract labor that was capitalized to plant. Edison declined to provide a quantitative response,

stating: "ComEd does not account for contractor expenditures in the manner requested."

- In data request 3.326, the City asked for the amounts of capital expenditures due to (a) contract labor; (b) Edison labor; (c) overtime; and (d) supplier costs. Edison responded, in part: "ComEd does not account for contract labor as requested and the term supplier costs is undefined."
- Finally, in its responses to several requests to admit from the City, Edison admits that some portion of its recovery program costs is included in its revenue requirement. At the same time, Edison denies (a) that it has quantified the costs of the recovery program included in the revenue requirement, (b) that it has quantified the costs of its recovery program excluded from the revenue requirement, (c) that it has documents quantifying the costs of the recovery program included in or excluded from its revenue requirement, and (d) that its witnesses relied on documents quantifying the costs of the recovery program included in or excluded from its revenue requirement. ComEd Responses to COC Requests to Admit 1.16, 1.17, 1.18, 1.19, 1.20, and 1.21 (attached as Ex. 4.1).

Edison has denied parties (and the Commission) any quantification of that portion of its revenue requirement request that could be challenged as a result of management or operational imprudence. As a result, however, Edison also has failed to produce any objective evidence that could meet its burden of proving that its proposed costs are a proper basis for setting rates.

Q. Summarize your position with respect to the available data in this case to evaluate the appropriate rate base amount.

A. No party other than Edison currently has sufficient information to conduct the necessary analyses. And no one (including the Commission itself) can make a reasoned recommendation (supported by evidence) to accept or to disallow a specific amount of the expenditures stemming from Edison's reliability failures and recovery program. In particular, one cannot conclude on the basis of Edison's direct or rebuttal testimony that the amount Edison seeks to add to rate base actually represents reasonable costs that are not attributable to imprudent management decisions. Because the mere lack of information cannot overcome the evidence of imprudent management decisions contained in Edison's own investigation reports, further scrutiny is justified.

4. *Shareholder Burden for Recovery and Audit Costs*

Q. Edison suggests that its shareholders are bearing the costs of correcting its reliability problems. Do you agree with this assertion?

A. No. Edison contends:

> Because of the rate freeze, customers who remain on bundled service will not begin to pay their share of any additional costs for reliability expenditures before January 1, 2005. In addition, regardless of Commission action in this case, shareholders will continue to bear all of the incremental expenses incurred . . . . ComEd Exhibit 19.0, line 85 (Helwig).

While it is true that Edison's financial performance would have been better absent the need to make massive capital expenditures and to incur operating and maintenance expenses to fix the problems with its system, that does not mean that its shareholders were getting less than they

should have. Edison's assertion must be examined in the context of its achieved financial performance.

As long as the utility is earning its authorized rate of return, then its shareholders are being fully compensated, even if there were extraordinary remedial expenditures. If Edison achieved its authorized return, then charges to ratepayers covered all the allowed costs. In that context, Edison's complaint is essentially that its remedial expenditures denied shareholders an opportunity to earn more than the authorized level of profit. Excluding accounting adjustments for merger accounting and for rapid amortization, Edison's return on equity was above 20%. It is true that the return would have been even higher had the expenditures not been made, but assertions that shareholders have suffered unduly are far from correct.

Q. Would an audit unduly penalize shareholders because of the delay in increasing rate base for delivery charge customers?

A. No. In my direct testimony I explained that Edison's cash flow is affected on an incremental basis by rate changes in this case only when customers do not become delivery services customers because they cannot achieve mitigation savings. I also pointed out that this situation (where customers do not become delivery service customers) will most likely occur when increases in delivery charges cause the CTC to decline from a positive number to zero. Edison now states that because of expected declines in the market price few customers will experience zero CTC's:

> Forward energy prices have fallen and are projected to remain far lower than

> the current Period A MVI values applicable to ComEd's customers. Fewer customers will have zero CTCs, even more customers will have increases in delivery services charges offset by decreases in CTCs (most see the offset even now), and even more customers will enjoy greater mitigation factor savings. (ComEd Exhibit 20.0, line 414.)

If customers experience the same amount of mitigation savings before and after rate changes in this case because the CTC does not decline to zero, Edison's cash flow does not suffer if rate base increases are delayed while an audit takes place. Of course, when rate changes are ultimately applied to all customers after January 1, 2005, if an audit suggests that rate base should be lower, then shareholders might experience a lower return. If an audit confirms Edison's position that past imprudence did not affect the ultimate level of capital expenditures, and if most customers experience a positive CTC whether or not rate base is increased, Edison shareholders will not be significantly affected.

5. *Obsolete Plant in Rate Base*

Q. In your direct testimony, what point did you make regarding equipment that has been replaced remaining in rate base?

A. I noted that if deficient spending on maintenance causes plant to be retired earlier than expected, the plant that is no longer useful remains in rate base. This plant is not used and useful, and an audit would reveal whether it is appropriate to leave such plant in Edison's rate base.

Q. Does Edison acknowledge that plant balances associated with plant that is no longer used is still in rate base?

A. Yes. Edison witness Jerome Hill suggests that instead of adjusting rate base, the depreciation expense charged to customers in the future should be increased. He testifies:

> …the retired plant is assumed to be fully depreciated. This practice reflects that plant in service is depreciated at class group annual depreciation rates based on the average expected service life for the particular class of plant. This practice also reflects that age of the plant retired may be higher or lower than the class group. Changes in average expected service lives for class groups are recognized in studies prepared periodically to determine average class depreciation rates. (ComEd Exhibit 23.0, line 70.)

Mr. Hill's statement implies that if distribution plant has been replaced as part of the recovery program, and if that plant was not fully depreciated, the obsolete plant as well as the new plant is in rate base. I understand that this occurs because of the mechanics of group depreciation. However, the question that must be resolved is whether, given the significant amount of plant that has been replaced in a short period of time, ratepayers should pay for the plant through higher depreciation rates in the future, or whether Edison should write off the undepreciated plant that is no longer used.

IV.
EDISON'S REBUTTAL CONFIRMS THAT THE MARGINAL COST STUDY IS AN INAPPROPRIATE BASIS FOR DISTRIBUTION TARIFFS

Q. Please summarize your understanding of Edison's rebuttal testimony respecting its marginal cost of service study.

A. In the panel rebuttal testimony of Mr. Alongi and Ms. Kelly, Edison repeats arguments it has made in the past in support of its marginal cost study. As I explain below in more detail, these arguments are less persuasive than ever, especially given the manner in which Edison

purports to use marginal costs to establish credits for metering and billing. Edison vigorously contests developing delivery services prices without including the marginal meter costs incurred only when it must install new facilities. But, at the same time, Edison argues that meter investment costs should not be considered in developing credits for customers using a competing service. Both of these Edison "marginal cost" positions cannot be right.

Edison's distinctive definitions of marginal meter costs (and its similarly distinctive definitions of marginal billing costs) illustrate the problem with Edison's marginal cost study that Mr. Peter Lazare identified. Edison inconsistently defines "marginal costs" to suit its desires. Another reason Edison's arguments are less persuasive than ever is the Company's resistance to changing its methodology to conform to the economic theory it says it is applying. One example is Edison's position on carrying charge factors that double count inflation. Edison's continued defense of this relatively minor element of its marginal cost study seems to validate another suggestion in Mr. Lazare's testimony. Efforts to improve Edison's study, no matter how well-founded, seem certain to be opposed by the utility.

Q. Before discussing details of Edison's arguments in defense of its study, can you identify some of the characteristics that a more reasonable marginal cost study would contain?

A. Yes. A few years ago, when the City addressed marginal cost of service issues in an earlier Edison rate case, I reviewed the marginal cost study presented by Pacific Gas and Electric Company ("PG&E") to its regulators. The PG&E study exhibited many differences from the

Edison marginal cost study. Among other differences, it did not attribute the carrying cost of a new meter and service drop to customer premises with facilities already in place. It also computed distribution costs on a region-by-region basis, recognizing that the characteristics of a system-wide class may not match the regional factors that actually drive distribution investment. Overall, the PG&E approach is a more reasonable one, and it is dramatically different from the Edison marginal cost study presented in this case.

In Docket No. 99-0117, I pointed out that Edison was capable of conducting a more reasonable marginal cost study, when it chose to do so. The Company's method of computing costs to support its Rider 19 rates for service in areas with under-utilized distribution facilities did recognize regional differences in capacity and expected load. Such a region-by-region calculation of distribution capacity costs, combined with marginal cost definitions of metering and billing that are consistent with economic principles, would provide the basis of a reasonable study. That study would be a dramatic improvement over the marginal cost study presented in this case by the Company.

1. *Meters and Service Drops*

Q. How does Edison respond to your criticism that the study's attribution of costs of a new meter to facilities that are already in place is not consistent with economic theory?

A. Edison attempts to justify attributing certain costs of a new meter to every customer premises' facilities by insisting that a meter's spinning causes a marginal cost that should be counted -- even if no dollars are actually expended to purchase or to install a new meter:

> These meters do not just exist, as Mr. Bodmer claims. They are performing a vital economic activity each and every day of the year. Their dials busily spin or their electronic components diligently record every kilowatt of power demanded and every kilowatt-hour of energy consumed by customers. They perform an economic activity that is vital to, not just customers and ComEd, but to any Retail Electric Supplier that may want to provide supply services in ComEd's service territory. It is fallacious to claim that the meters merely exist. (ComEd Exhibit 32.0, line 88.)

Q. Do you agree that the spinning of a meter causes marginal costs?

A. No. Proclaiming that societal marginal resources are expended because a meter is spinning is simply nonsense. Marginal costs are defined by the occurrence of economic events and an incremental expenditure of dollars -- not by spinning meters that do not cause Edison to make any expenditures. The fact that Edison resorts to this type of argument -- that a spinning meter causes marginal new meter costs -- indicates the lack of justification in principled economics. More important, such positions, and Edison's consistent refusal to reconsider them, have harmful effects on customers' rates. At least when it comes to Edison's marginal cost of service study, I have come to Mr. Lazare's conclusion that marginal costs are subjective.

Q. Can you describe how the cost of new meter installations should be treated in a appropriate marginal cost study?

A. Once a meter is in place for given location, it is a sunk cost. After Edison installs a new meter and/or a new service for a house, the marginal cost of the installation becomes a sunk cost. No further marginal meter costs for that location will be incurred unless and until a new meter is installed. To use Edison's example, the meter could spin indefinitely, but

spinning alone causes no additional marginal meter costs.

From a marginal cost perspective, Edison is wrong to assume that mere re-use of in-place customer premises facilities -- which are represented by sunk costs (not marginal costs) -- causes the utility to incur the costs of buying and installing a new meter. On the other hand, marginal customer costs do arise when the Company installs new meters and services. The only potential marginal costs associated with existing meters are eventual replacement costs. An appropriate treatment of those costs that I suggested in an earlier case would be to use an "insurance" allowance for the replacement of meters and services. While I did not propose this approach in my direct testimony because my comments are focused on the problems with Edison's cost study, I continue to believe this would be the appropriate method for measuring the marginal cost of meters.

2. *Inconsistencies In Edison's Use of Marginal Cost Concepts*

Q. Before addressing details of Edison's rebuttal testimony on the measurement of marginal metering costs used in determining billing credits, could you quantify the difference between the marginal metering costs Edison calculated for purposes of billing credits and those calculated for use as metering costs in the marginal cost study?

A. For single family customers, the marginal cost of meters for purposes of billing credits is $1.80 per customer per year. Conversely, the marginal cost study assumes a measured metering cost for the same customer class of $13.00 per customer per year. The marginal cost study (used for customer charges) assumes metering costs that are 622% above the

511 marginal metering costs used for billing credits (customer bill reductions).

512 **Q. Why is the marginal metering cost calculated for purposes of metering credits so**
513 **different from the metering costs in the marginal cost study?**
514 A. The marginal costs defined for purposes of billing credits do not include carrying charges on
515 the cost of a new meter or the total actual cost Edison expends in operating and maintaining
516 meters. In developing the marginal cost study, Edison uses accounting costs for meter
517 reading, meter repair, and other meter related costs, including administrative costs. Edison
518 adds the carrying cost of new meters to these operating and maintenance costs in the
519 marginal cost study. For purposes of establishing billing credits associated with meter
520 services, Edison calculates marginal cost by including only costs that are supposedly "on the
521 margin" when an existing meter is no longer supplied by Edison. That is, in Edison' credits
522 calculation sunk costs are ignored; in Edison' charges calculation, they are not.

523 In summary, in the cases of costs that support customer charges Edison assumes that it incurs
524 the costs of a new meter for every customer premises it serves. But, for customer credits,
525 Edison does not assume that the same costs are avoided when a customer premises is served
526 by a competing metering firm.

527 **Q. What is the quantitative difference between Edison's calculation of marginal billing**
528 **costs for purposes of determining single bill option credits and the marginal billing**
529 **costs used in Edison's marginal cost study?**

A. For single family customers, the marginal cost of billing for purposes of the single bill option is $0.41 per customer per year. The marginal cost study assumes a billing cost for the same class of $12.06 per customer per year.

Q. Is Edison's approach to pricing of metering credits consistent with your arguments respecting the marginal cost of new meters?

A. Yes. When measuring marginal costs for purposes of billing credits, Edison does not include carrying charges on the cost of a new meter and it does not include the fully loaded operation and maintenance costs. Excluding these costs from the marginal cost of meters is very similar to the position that I have taken in prior cases and it is consistent with the method used in the PG&E study that I referenced above. Similar principles apply to costs of new services and billing costs.

Q. Does Edison try to distinguish its different methods for computing the marginal costs associated with metering and billing credits versus the metering and billing costs in the marginal cost study?

A. Yes, Edison's employee-witnesses attempt to make that distinction. In the panel rebuttal testimony of Alongi and Kelly, Edison emphasizes the notion that its marginal cost study measures long-run marginal costs. However, Edison witness Makholm characterized the costs of metering Edison used in establishing metering credits as marginal costs. Mr. Alongi and Ms. Kelly -- who have attempted to define marginal costs more broadly for purposes of setting customer rates -- refer to the same cost items as "net avoided costs" and use this

narrower definition for utility credits.

Q. Is there a difference between short-run avoided costs and marginal costs that justifies Edison's position?

A. No. Attempting to distinguish between short-run marginal costs and long-run marginal costs makes marginal costs useless as a guide to pricing. In a competitive market, which prices based on the marginal cost study are supposed to emulate, we do not ask whether prices are long-run or short-run prices. As I explain below, economic activity (by customers and by Edison) occurs in the short-run and not in some hypothetical long-run that never actually exists. This might not conform to positions developed in Edison's bureaucracy over the years, but it is the way markets work.

Q. Is the distinction between long-run and short-run marginal cost justified in theory?

A. No. The theory is discussed by Nobel Laureate William Vickery:

> In an ideal world, all prices would be set at short-run marginal social cost so that purchasers would have proper indications to make efficient choices among the various alternatives. If this condition is not met, it would theoretically be possible to improve the lot of everyone by increasing the consumption of goods having prices in excess of short-run marginal cost and reducing the consumption of goods for which the reverse is true…Short-run marginal cost of electric power at a given instant and location has two main components: the cost to the utility on the one hand, and the cost in terms of impaired quality of service to other customers on the other…The cost of providing added power to one customer when capacity is being fully utilized is the depriving of another customer of power…" Vickery, William, *Efficient Pricing of Electric Power Service*, Resources and Energy, Volume 14, April 1992, North Holland, Page 158.

In the past, Edison has hired noted economists such as William Baumol to defend the general principles behind marginal costs. Significantly, those witnesses have traditionally not been asked to evaluate or to defend Edison's application of the economic principles they support -- its marginal cost of service study. When it comes to applying the theory in practice, Edison's study fails.

3. Distinctions Between New Facility Installations and In-Place Facilities

Q. Does Edison assert that customers who cause it actually to buy and to install new facilities should not be distinguished from existing customers in a marginal cost study?

A. Yes, although in doing so Edison confuses (a) recognition of the distinctive costs of newly constructed facilities and the lower costs of re-using in-place facilities (the far more common occurrence on Edison's system) with (b) a "straw man" notion to distinguish old and new customers. Edison states:

> Mr. Bodmer's theory also is vague and impractical. He fails to explain when and how distinctions would be drawn between what would constitute a "new" customer versus what would constitute an "existing" customer, for example, when or to what extent a customer that moved within the service territory would be treated the same as a customer moving into the service territory. (ComEd Exhibit 32.0, line 145.)

In fact, the different treatment of these distinctive costs, which is required by relevant economic principles, would apply whether the customer that causes Edison to incur the costs of newly installed facilities is an "old customer" or a "new customer" -- however Edison defines those terms. It is the presence or absence of cost-causing new construction, not the identity or status of the customer, that requires recognition.

Q. Is there ambiguity in differentiating between incremental construction and extant facilities in a marginal cost study?

A. No. Only in cases where customers cause Edison to construct new facilities are "additional units of consumption," consisting of new meters and service drops, "produced" by Edison. Attributing those new construction meter and service drop costs to customers who re-use existing facilities is an embedded cost concept -- an allocation of accounting costs rather than association of marginal costs with the cost-causing economic activity. The distinction between future costs and sunk costs is a basic and fundamental tenet of marginal cost theory. What happened last year in terms of installing meters and services is irrelevant from a marginal cost standpoint.

4. *Real Versus Nominal Carrying Charges Applied to Replacement Cost*

Q. How does Edison respond to your point that real rather than nominal carrying charges should be used in the marginal cost study?

A. Edison merely submits an analysis it used in an earlier case where carrying charges (cost of capital) were applied to a single investment. The analysis, actually an algebraic demonstration, supposedly "proves" its argument. Edison then states: "This is another instance where Mr. Bodmer's point was made by him, and refuted, in that Docket." (ComEd Exhibit 32.0, line 68.)

Q. Did Edison successfully refute your arguments in a prior case?

A. Not at all.

Q. What were the reasons that you contended that Edison should use a real carrying charge in its study?

A. In my testimony in Docket No. 99-0117, I pointed out (a) that other states use real (not nominal) carrying charges in marginal cost studies, consistent with economic theory, and (b) that the use of the real cost of capital when applied to costs that already account for inflation is well established in academic literature. I also demonstrated how Edison's contrary method double counts inflation. I tested Edison's method by evaluating the targeted return on equity in the carrying charge factor as compared to the actual return on equity that results if expected inflation is the same as actual inflation. My analysis demonstrated that if Edison's carrying charge is used (with consistent interest rates) and no future inflation is assumed, the target return on equity is achieved. However, if the actual inflation rate is the same as the expected inflation rate, then the earned return significantly over-shoots the target. Edison's use of replacement costs in its marginal cost of service study replicates the latter situation.

Edison's presentation of an irrelevant document from its obsolete Least Cost Plan does not refute any of these points. The "proof" only confirms the notion that when there is no inflation in the base of an investment, use of a nominal carrying charge does not produce a biased result. Since Edison's study uses replacement costs as the base investment (costs that incorporate actual inflation), the point Edison proves is inapplicable to its study.

Q. Is your criticism still valid with respect to the Edison study in this case?

A. Yes.

Q. Is your criticism the result of a pro-residential agenda?

A. No. In fact, application of a lower "real" carrying charge favors customer groups whose costs are concentrated more in expense items than in capital costs. Use of real versus nominal carrying charges is a somewhat arcane issue that I would not expect the Commission to spend a lot of time considering when it issues an order in this case. The employment of a nominal carrying charge factor is a fairly obvious mistake in Edison's cost study and I simply pointed it out. The issue is not very important from a customer impact perspective.

The issue is much more important in demonstrating Edison's entrenched attitude about its marginal cost study. Edison's reluctance to consider this issue in a reasoned manner is another illustration of Mr. Lazare's conclusion that reforming and validating Edison's marginal cost study may be a futile effort.

5. *Replacement Costs Versus Marginal Costs*

Q. Does Edison dispute your characterization of its study as a replacement cost study rather than a marginal cost study?

A. Yes. Edison said it was "particularly trouble[d]" by my description. Mr. Alongi and Ms. Kelly testify:

> Mr. Bodmer's use of the term "replacement costs" in describing the costs

> used in the marginal cost of delivery services study appears to be intended to mean that the costs are set at the current prices of existing facilities …. The use of that term and that assertion show that Mr. Bodmer has a fundamental lack of understanding with respect to the marginal cost of delivery services study. The marginal cost of delivery services study does not develop costs for ComEd facilities that actually exist in the field. (ComEd Exhibit 32, line 28).

Q. Do you understand that Edison uses hypothetical representative customer data rather than actual customer data in what you have termed their "replacement" cost study?

A. Yes, I do. I understand that costs for representative customers are grossed up by actual loads and the actual number of customers. Representative customers are defined using the characteristics of actual customers (e.g., the regression of TDC costs, and density based on maps of the Edison system).

The important point here is that despite the marginal cost label, Edison's study does not measure how future incremental expenditures vary with incremental consumption. It does not measure true marginal costs. This is the reason I term Edison's study a replacement cost study rather than a marginal cost study.

Q. Has Edison properly recognized marginal distribution costs, as opposed to replacement costs, in other studies, demonstrating that your label is accurate?

A. Yes, it has. A comparison of the cost method that Edison used to develop its industrial development rates with the study in this case illustrates why I term the study Edison presents here a "replacement" cost study. The method the Company used in support of the industrial development rate conforms to a marginal cost study. In Docket 99-0117, I made this point:

> ComEd has used different and more appropriate methods of analysis for its economic development rates and its contract service rates. The analysis ComEd developed to support its Rider 19 -- industrial development -- applied more correctly the relevant principles of marginal cost for its distribution in terms of investment costs on a regional basis. That analysis was consistent with the manner in which ComEd actually incurs costs as it adds load to its distribution system, it recognized the planning and cost causation characteristics of the distribution (i.e., regional coincident loads), and it applied marginal cost theory appropriately. ComEd's Rider 19 analysis recognized the local/regional nature of distribution systems -- that they can vary across relatively small geographic areas, that planning and construction of distribution facilities is locally focused, non system-wide, and that in some situations the costs of an incremental unit of consumption could actually be zero. Rider 19 differentiated ComEd's rates on an area-by-area basis as a function of regional load growth and substation capacity.

Edison again has resisted fixing an easily recognized and corrected aspect of its study. In this instance, it is a correction the Company has made in other contexts, adding weight to allegations that the study is subjective.

6. *Marginal Cost and Density*

Q. What point did you make in your direct testimony regarding population density and residential costs?

A. I noted that Edison's density analysis is not derived from actual facilities and that the results in terms of residential customers do not seem reasonable. The overwhelming majority of residential customers (both single family homes and apartments) are served by overhead wires, but Edison's study classifies 29.23% of the multifamily non-space heat class as high density, a classification that is defined as using significant amounts of underground wires encased in expensive conduit. By comparison, only 1.05% of multifamily non space heat

customers are included in the light density category.

Q. How did Edison respond to your testimony?

A. Edison suggested that I am mistaken because the cost of serving rural areas in the Edison study is greater than the cost of serving heavy density areas. Mr. Alongi and Ms. Kelly testified:

> ComEd's method of measuring distribution cost by density is appropriate and produces logical results. This point is well-illustrated using Mr. Bodmer's own example. As clearly shown on page 14 of ComEd Exhibit 13.1, the costs for the type of equipment Mr. Bodmer is describing (conductors) are in fact higher for customers in sparsely populated areas when compared to the costs for customers in densely populated areas. (ComEd Exhibit 32.0, line 233.)

Edison's comparison of costs for lengthy rural circuits against the costs of more closely spaced urban circuits proves nothing about the reasonableness of the costs assigned to multi-family customers. Excluding costs for such rural areas, where there are few apartments, we can make more reasonable comparisons. Still, the costs for the medium light density classification are $475/kW -- 52% below the heavy density cost, and the costs for the medium heavy classification are $743/kW -- 26% below the heavy density cost of $1004/kW. These numbers demonstrate that in Edison's study higher density areas are -- counter-intuitively -- more costly than lower density areas.

V.
EDISON'S REBUTTAL TESTIMONY DOES NOT REFUTE THE NEED FOR MAJOR CHANGES IN ITS EMBEDDED COST STUDY

Q. Please summarize Edison's rebuttal testimony with respect to your suggested revisions to its embedded cost of service study.

A. Edison responds to my critiques of its embedded cost study with rebuttal testimony presented by Mr. Alan Heintz and Mr. Michael Born. The majority of Edison's response deals with my suggestion that a four coincident peak method rather than a single non-coincident peak method should be used in allocating distribution capacity costs. Edison does accept some revisions to its embedded cost study, including a partial correction of its peak allocation method. But, even after the revision, distribution capacity costs are allocated in a manner different from the Company's marginal cost study. Edison also does not accept any changes in the allocation of billing, metering and customer installation costs on the basis of account details.

Q. Based upon your review of Edison's rebuttal testimony, what are the most significant differences between your position and the Company's position?

A. The major differences relate to allocation of costs of distribution substations and distribution lines, as well as the classification of billing, customer installation, and metering costs. Edison continues to allocate distribution substations and primary distribution lines differently in its embedded cost study than it does in its marginal cost study. The Company criticizes my testimony because I examined the cost details of its non-distribution accounts to assure that the cost allocations are consistent with cost causation. I continue to recommend revisions that make cost allocations more consistent with cost causation. Edison's arguments in opposition are not persuasive and should be rejected.

3. *Edison's Revisions to its Embedded Cost Study*

Q. How has Edison revised its embedded cost study in rebuttal testimony?

A. In rebuttal testimony, Edison changes the allocation of high voltage substations and high voltage power lines that were formerly classified as transmission facilities. The revision is summarized in the testimony of Mr. Alan Heintz:

> Some distribution facilities such as high voltage substations and some high voltage distribution lines do peak at the same time as the system. Given this fact and the fact that a significant portion of the facilities included in the sub-functions "High Voltage Distribution Substations" ("HVDS") and "High Voltage Distribution Lines" ("HVDL") of the ECOSS consist of plant refunctionalized from transmission to distribution, it is not unreasonable to allocate these two sub-functions (and only these two sub-functions) on the basis of class coincident peak. (ComEd Exhibit 33.0, line 99.)

Q. Is the revised embedded study an improvement over the original embedded cost study?

A. Yes. For the reasons explained in my direct testimony, the revision substituting a coincident peak allocation method for a single, system-wide, class non-coincident peak method is a good step. And, we can agree that it is a better approach than the original proposal, although all class peak methods retain some imperfections. I commend Edison for taking corrective action to address some of the identified deficiencies in its embedded cost study. (As I pointed out above, such flexibility contrasts with Edison's resistance to changes that remedy defects in its marginal cost methodology.)

Q. Is the revised allocation of equipment that was formerly transmission consistent with previous positions advocated by Mr. Heintz?

A. Not at all. Mr. Heintz has previously taken the position that transmission equipment should be allocated on the basis of 12 coincident peaks or 4 coincident peaks. (Such an approach would allocate less of the revenue requirement to residential customers and more to business customers.) In previous testimony submitted to FERC respecting transmission voltage facilities (provided in response to a data request), Mr. Heintz does not even mention the possibility of allocating transmission equipment using either a single coincident peak or any non-coincident peak method. There he deemed multiple coincident peaks the proper allocation basis.

Q. Do the revisions Edison made in its embedded cost study mean that Edison's study is now consistent with your recommendation with respect to distribution capacity costs?

A. No. I recommended use of a four coincident peak method, and I recommended that the coincident rather than non-coincident peak method be applied to accounts containing distribution lines and distribution substations as well as to the high voltage facilities discussed above. I did not disagree with the non-coincident allocation factor applied to local transformers. The table below demonstrates that this remaining disagreement on the allocation of capacity costs for ***distribution lines*** and ***distribution substations*** is significant. From a dollar standpoint, these two accounts represent more than 66% of total distribution capacity costs.

TABLE A -- COST ALLOCATION METHODS

COST CATEGORY	ORIGINAL ALLOCATION	REVISED ALLOCATION	RECOMMENDED ALLOCATION	"MCOSS" ALLOCATION	EMBEDDED COST	PERCENTAGE OF DISTRIBUTION CAPITAL COST
215-High Voltage ESS	NCP - 69kV and above	NCP - 69kV and above	NCP - 69kV and above	N/A	16,265,809	1.2%

216-High Voltage Distr. Substations	NCP - Less than 138kV	1-CP - 69kV and above	4-CP - 69kV and above	1-CP	303,434,923	22.3%
217-High Voltage Distribution Lines	NCP - All	1-CP – All	4-CP - All	1-CP	42,747,501	3.1%
218-Distribution Substations	NCP - Less than 69kV	***NCP – Less than 69kV***	***4-CP - Less than 69kV***	1-CP	128,258,591	9.4%
219-Distribution Lines	NCP - Less than 69kV	***NCP – Less than 69kV***	***4-CP - Less than 69kV***	1-CP/NCP	781,471,292	57.5%
220-Line Transformers	NCP - Line Transformers	NCP – Line Transformers	NCP - Line Transformers	NCP	87,991,847	6.5%
Total					1,360,169,963	100%

** Bold, italic items are remaining areas of disagreement

Q. After the revisions to Edison's embedded cost study, are the embedded study allocations consistent with those in the marginal cost study?

A. Absolutely not. Edison's marginal cost study allocates all substation costs on the basis of coincident peak, rather than non-coincident peak, and it allocates the cost of 34 kV lines, the primary main and the primary tap on the basis of coincident peak. This is completely different from the method used in either Edison's original or its revised embedded cost study. There, even after the revision, the majority of distribution equipment is allocated on the basis of a single, system-wide non-coincident peak. When Edison's witnesses Heintz and Born criticize the use of coincident peak methods in allocating distribution lines and substations, they are also criticizing the Company's own marginal cost study method, which Edison has maintained is the correct way to attribute costs for almost two decades.

4. *Coincident Peak Versus Non-Coincident Peak*

Q. What is Mr. Heintz's main criticism of the use of a coincident peak methodology to

allocate distribution lines and distribution substations?

A. Mr. Heintz merely points to statements by other regulatory authorities. But, Mr. Heintz may have made more of the quotations he relies on than is actually there. For example, the FERC statement he characterizes as a FERC allocation method "preference" is just an observation that "distribution facilities are . . . planned and built to meet local loads." (ComEd Ex. 33.0, line 65) As to truly local facilities such as line transformers, I agree with allocation on the basis of non-coincident peak, but most of the costs Mr. Heintz's allocation encompasses are not of that nature. In Edison's marginal cost study, the ratio of the primary main and tap to the total of the primary main, primary tap and secondary lines is more than 90%. The primary lines allocated on a non-coincident peak basis in the embedded cost study represent facilities that serve loads over broad areas and from customers in a variety of classes, rather than strictly local facilities that serve loads from a single customer class as Mr. Born suggests. Similarly, Mr. Heintz's quotation from a NARUC manual merely reports survey results. Mr. Heintz does not address my criticism substantively.

The precedent in Illinois with respect to attribution of the vast majority of distribution lines and all distribution substations has been use of coincident peak in Edison's marginal cost study. Therefore, I emphasize that when Mr. Heintz and Mr. Born advocate use of non-coincident peak for allocation of distribution substations and primary distribution lines, they are also departing from the historic attribution of those facilities in Edison's marginal cost study.

Q. How does Mr. Heintz explain the inconsistent methods in his embedded cost study and the Company's marginal cost study for allocating distribution lines and distribution substations?

A. He does not deal with the issue substantively, but pleads lack of data. He argues that "[u]nlike ComEd's MCOSS, distribution facilities below 69,000 Volts are not distinguishable by voltage (primary and secondary) in the ECOSS, because ComEd does not have the cost and load data necessary to make the distinction." (ComEd Ex. 33.0, line 117) In Edison's marginal cost study, the Company attributes $550/kW of cost to substations and primary facilities while only about $55/kW of cost is attributed to secondary wires (using the representative customer kW). If Mr. Heintz did not have sufficient data, he could have looked to the marginal cost study for guidance. If he had looked at the marginal cost study, he would have recognized that the allocator for distribution lines should be based on the characteristics of the predominant primary facilities in the account (a CP allocator), rather than on the characteristics of local secondary facilities.

Q. Does Mr. Heintz address your criticism that a non-coincident peak allocator loses its advantage as an allocator of local facilities when the peak is for a system-wide class?

A. Mr. Heintz states: "ComEd's lower voltage distribution facilities are planned for non-coincident demand conditions." (ComEd Exhibit 33.0, line 99.) If Mr. Heintz means that local distribution facilities like line transformers are planned based on non-coincident loads for the region in question, I agree with him, and my recommendations reflect that fact. If Mr. Heintz is suggesting that distribution substations in Joliet and 34 kV lines on the North Side

of Chicago are built only as a function of the system-wide class non-coincident peak, including residential usage in Northbrook, we continue to disagree. Edison's allocation approach in its embedded cost study for distribution lines and distribution substations is flawed because a system-wide class non-coincident peak does not reflect the utility's local and regional distribution planning. Mr. Heintz's class non-coincident peak method is merely a cost study construct, not a reflection of actual planning and actual cost causation. Edison's marginal cost study recognizes that system wide non-coincident peak loads are appropriate, and so should the embedded cost study.

Q. Review how Mr. Born supports Edison's use of a system-wide, non-coincident peak method for allocating distribution lines.

A. Mr. Born first explains that Edison plans its system on a regional basis using regional peak loads that do not necessarily correspond to the system-wide load: "ComEd does plan its distribution facilities on a regional basis and evaluates the non-coincident annual peak load on each primary distribution circuit and substation transformer." (ComEd Exhibit 37.0, line 130.) Mr. Born then attempts to justify use of system-wide, non-coincident peak by asserting that, within regions, customers have similar characteristics: "[C]ustomers of the same class are generally located in close proximity to each other, they are generally supplied from the same line transformers and primary and secondary voltage distribution lines." (ComEd Exhibit 37.0, line 147).

I will comment substantively on Mr. Born's position. But, first I note parenthetically that

Mr. Born apparently has not reported his findings to Mr. Alongi and Ms. Kelly. They have not revised Edison's marginal cost study to attribute the costs of primary taps and the substations on the amount of non-coincident peak usage, rather than coincident peak usage.

Q. Do you agree that with Mr. Born's proposition that similar customers within a region are located together and that this justifies allocation of costs using system-wide non-coincident peak?

A. No. A primary circuit may serve the grocery store, the elementary school, a residential neighborhood, and other premises in a diverse area. The substation that feeds these primary lines is even less likely to serve a single delivery service class of customers, such as the 400-800 kW delivery services class. Regional peak driving the construction of distribution substations and primary lines is a function of all of the residential, commercial, governmental and industrial use that occurs on the lines and substations. I understand from discussions with Edison that this is the basis for attribution of costs in the marginal cost study using coincident peak rather than non-coincident peak.

Q. Please comment on Mr. Heintz's suggestion that you should demonstrate empirically that coincident peak is the better allocator.

A. In referring to my recommendation with respect to allocators for distribution capacity costs, Mr. Heintz testified that: "Regardless of whether that rationale is in fact correct, Mr. Bodmer offers no empirical or objective support for that contention." (ComEd Exhibit 33.0, Line 127.) The empirical basis for that proposition is no stronger or weaker than the basis for the

attribution of substation costs and primary tap costs on the basis of coincident peak in Edison's marginal cost study. (I note that Mr. Heintz does not deny the validity of my position; he just asks for more data.) The type of empirical analysis he demands would gather a database of distribution costs across time and/or across companies and test whether the costs are more highly correlated to non-coincident peak or coincident peak. Even if data could be gathered, I doubt that statistically significant results could be obtained. Apparently Edison reached the same conclusion, since Mr. Alongi and Ms. Kelly have not presented such an empirical analysis to support their attribution of substation costs and primary tap costs on the basis of coincident peak.

4. *Four Coincident Peak Versus Single Coincident Peak*

Q. Since you have discussed the non-coincident ("NCP") versus the coincident peak ("CP") allocators, can you now review how Edison supports the use of a single peak ("1-CP") rather than a multiple peak ("4-CP') method for allocating distribution facilities?

A. Edison spends less of its rebuttal testimony on this 4-CP versus 1-CP issue than on the coincident/non-coincident peak issue. Mr. Born spends most of his testimony attempting to justify Mr. Heintz's NCP allocation of accounts that represent facilities that can serve large geographic areas with diverse customer populations. In doing so, however, Mr. Born does appear to provide additional support for the use of multiple peak allocators.

Q. What rebuttal testimony provides support for use of a multiple peak allocation method

such as 4-CP, rather than Edison's proposed single coincident peak method?

A. Mr. Born, in discussing Edison's facility sizing procedures, confirms that in planning distribution facilities the utility does "take into account both the maximum load and the duration of near peak load levels to determine economic equipment life."(ComEd Ex. 37.0, line 106, emphasis added.) Additionally, the testimony of Mr. DeCampli notes that Edison accommodates unusual load situations through the use of emergency facility ratings for limited periods. Edison does not incur costs to augment facilities every time a single new peak is reached, although both its single peak allocator and its rate ratchet proposal suggest otherwise. The 4-CP allocation method is not a radical departure from a single peak method; rather it incorporates the "near peak load levels" described by Mr. Born.

Q. Taking account of Edison's rebuttal testimony, please state your position on the relative appropriateness of single or multiple peak allocators.

A. In selecting among class CP allocation methods, Edison's 1-CP method is inferior to the 4-CP method I have proposed because it continues the misconception that a single peak demand event for an individual customer drives new facility construction (and distribution costs) for that customer. The 1-CP approach fails to recognize that the facilities serving individual customers are not upgraded upon the occurrence of each new peak or a single anomalous event. It is the actual or expected repetition of load demands at or near the capacity of existing facilities that prompts capacity increases. Anomalous events like needle peaks that are not expected to recur are handled on a broader, system basis -- for example, by redistributing the load among other available feeders -- rather than through new

construction for each individual customer. My proposed 4-CP method recognizes this reality by looking at repeated demand at higher levels as the driver of new construction rather than single anomalous events. The 1-CP method is based on the false assumption that a single instance of high demand will always prompt new construction (and additional costs) to serve the customer.

5. *Allocation of Billing, Installation, Uncollectible and Metering Cost*

Q. Mr. Heintz asserts that you did not provide the analysis of individual billing, customer installation and metering accounts on which you based your criticisms of his study. Did you provide your workpapers to Edison?

A. Yes. I provided an account-by-account breakdown for each of my adjustments in a spreadsheet provided to Edison.

Q. What is Mr. Heintz's primary criticism of your approach?

A. Essentially, Mr. Heintz complains that I was too careful in assuring that cost causation is recognized in the embedded study's cost allocations, because he believes that the proposed embedded study's allocations are good enough. Mr. Heintz testifies:

> In general, it is almost always possible, by expending sufficient resources, to study a utility's accounts in detail, to refine an embedded cost allocation model. However, the very nature of an embedded cost allocation model is to avoid having to analyze on a line-item by line-item basis every expense that a utility incurs." (ComEd Exhibit 33.0, Line 153).

> At the level of cost detail embodied in ComEd's ECOSS, I believe that the allocations to classes appropriately reflect the concept, employed by many regulatory bodies including FERC, that cost

> allocation should reflect the predominant measure of cost-causation. I recommend that the Commission reject Mr. Bodmer's recommendations and continue, as it has in the past, to apportion these customer-related costs to classes by allocators based on numbers of customers. (ComEd Exhibit 33.0, line 163.)

The superior reflection of cost causation principles in the revisions that I recommend can be achieved without an excessive "line-by-line" re-examination of Edison's accounts. More important, the customer impacts of assuring that these costs are paid by the cost-causers are significant enough to warrant an adjustment. Mr. Heintz's rather curious objection to my recommended revisions in this area should be rejected.

Q. Does this conclude your rebuttal testimony?

A. Yes, it does.